

B.Tech III Year I Semester (R13) Supplementary Examinations June 2017

**ENGINEERING GEOLOGY**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

**PART – A**  
(Compulsory Question)

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- 1 Answer the following: (10 X 02 = 20 Marks)
- What is weathering?
  - Give the hardness of Kyanite and chemical composition of Pyrite.
  - Define Ophitic texture and give an example.
  - Define unconformity.
  - Give the definition of aquifer.
  - Draw Richter scale.
  - Which geophysical method is used for groundwater exploration?
  - What is the use of radiometric method?
  - Give the definition of Tunnel with neat diagram.
  - What are the basement rocks of Nagarjuna Sagar dam?

**PART – B**  
(Answer all five units, 5 X 10 = 50 Marks)

**UNIT – I**

- 2 (a) Discuss the role of geology in civil engineering projects.  
(b) Enumerate the importance of rock weathering and soil erosion in engineering practice.

**OR**

- 3 What is mineral? How minerals are identified? Discuss the physical properties of Feldspar group of minerals. Also give the economic significance of mica group minerals.

**UNIT – II**

- 4 What is rock? How rocks are broadly classified? Give examples. Add a note on textures of sedimentary rocks.

**OR**

- 5 (a) Give brief classification of faults and their recognition criteria in the field. Add a note on their significance in civil engineering projects.  
(b) What is soil erosion and also give control measures? What are the common types of Indian soils?

**UNIT – III**

- 6 (a) Define Ground Water? Write an essay on origin and distribution of groundwater.  
(b) Give the causes and effects of Land Slides.

**OR**

- 7 What is earthquake? Give the difference between the "magnitude" and the "intensity" of an earthquake? Write an essay on earthquakes.

**UNIT – IV**

- 8 (a) Explain electrical resistivity methods for civil engineering applications.  
(b) What are seismic refraction methods and give their importance in civil engineering?

**OR**

- 9 (a) In what way gravity method is important to civil engineering?  
(b) Define grouting. How do you improve sites by grouting?

**UNIT – V**

- 10 Draw neat sketches of different types of dams and describe their characteristic geological considerations.

**OR**

- 11 Discuss the role and functions of an Engineering geologist at various stages of civil engineering projects.

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